

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 63-155729

(43)Date of publication of application : 28.06.1988

(51)Int.Cl.

H01L 21/304
B08B 3/00

(21)Application number : 61-303323

(71)Applicant : HITACHI ELECTRONICS ENG CO
LTD

(22)Date of filing : 19.12.1986

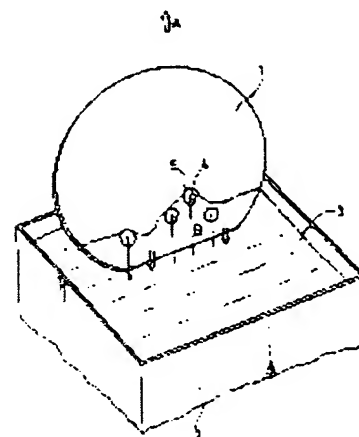
(72)Inventor : KOBAYASHI SATOSHI

(54) METHOD AND APPARATUS FOR CLEANING SILICON WAFER AT LOW TEMPERATURE

(57)Abstract:

PURPOSE: To freeze water around foreign matter adhering to a wafer as a nucleus and to remove it by cleaning the wafer, then mixing low temperature gas with the cleaned water to set it to two states of liquid before freezing and solid.

CONSTITUTION: Cleaning water 3 of pure water is filled in a cleaning tank 2, maintained at approx. 5°C, and a wafer 1 is cleaned. After the cleaning is finished, low temperature gas, such as liquid nitrogen is mixed with the cleaning water to reduce the temperature to the vicinity of a freezing point, it starts freezing with a foreign matter as a nucleus, thereby becoming two states of water and ice. The wafer 1 is lifted as designated by an arrow A at a suitable time point of this state. An ice piece 5 in which the matter 4 is as a nucleus is dropped into the water 3 by means of its own weight as designated by an arrow B. That is, it can prevent the matter 4 from being adhered to the wafer 1, thereby performing the object of cleaning.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office